Most of these conclusions are acceptable. A careful reading of the first section of the Hepburn act, however, would lead one to think that there is power sufficient in existing law to solve the entire private-car problem without recourse to Congress for additional legislation. The fact that "transportation" now includes all cars and all instrumentalities of shipment or carriage, irrespective of ownership or contract, and that it is the duty of carriers to furnish such transporation upon request and to establish just and reasonable rates applicable thereto, would seem to give the Commission adequate authority to determine the reasonableness of mileage rentals.

As for the statement that the evils of private cars are fast disappearing, this must be a matter of judgment concerning which the author is entitled to hold one opinion and the reviewer another.

FRANK HAIGH DIXON.

Dartmouth College.

Report on the Transportation of Petroleum and Report on the Petroleum Industry. By THE COMMISSIONER OF CORPORATIONS. 3 volumes. (Washington, D. C.: Government Printing Office, 1906, 1907. xxvii, 512; xxi, 396; xxvii, 965.)

Between May, 1906, and August, 1907, three volumes of more than ordinary interest and importance to economists have been put forth by the young Bureau of Corporations. First came the Report on the Transportation of Petroleum. This took its rise from a House resolution, passed February 15, 1905, directing particular attention to the Kansas oil fields. It was followed by part I of the petroleum industry report, dealing with the position of the Standard Oil Company in that industry; and part II, entitled *Prices and Profits.* Together they make a work of over 1800 good sized pages. Other reports are to follow. Much has been written concerning the Standard Oil Company, and, incidentally, concerning the oil industry in general, but nothing so comprehensive has before been attempted.

The *Report of the Commissioner of Corporations on the Transportation of Petroleum* is a valuable study in railway discrimination.

Beginning with a general statement of methods of oil transportation by rail, water, and pipe line, the report makes a minute analysis of the situation in the various sections of the country. Its general conclusion is that there existed in 1904 numerous flagrant discriminations by railways in favor of the Standard Oil Company, few other corporations being so favored. To this fact the Bureau ascribes the trust's monopoly control throughout large portions of the United States.

Discriminations in oil transportation are classified as follows: (1) secret and semi-secret rates; (2) discriminations in open arrangement of rates; (3) discriminations in classification and rules of shipment; (4) discriminations in treatment of private tank cars. Clearly (1) and (2) may be grouped as sub-heads under discrimination through rate manipulation in general, and there are reasons for including "discriminations in classification" in the same category.

The body of the volume is made up of chapters which deal with the various sections—the Southwestern States, the Middle Atlantic States, etc.—stating the general transportation conditions in the section and minutely describing the various methods of discrimination found in it. Maps and diagrams abound and are valuable additions.

The material for this volume has born fruit in the abandonment of many discriminating practices, and has done a great service in unearthing devices through which the interstate commerce law has been evaded.

After an introduction, which briefly takes up the different fields, and various products, the great part —over one-third— of the first volume of the *Report on the Petroleum Industry* is devoted to pipe lines. In the Appalachian fields there is a competitor in the Pure Oil Company and its subsidiary companies; but a large part of the field is not reached by any independent lines, and such lines are small and have higher operating costs than the Standard. On the Lima—Indiana and Mid-continent fields the pipe-line monopoly of the Trust is even more complete. In Texas alone is the Standard relatively unimportant, having no control over fuel oil, which is the chief product of Texas crude.

A statement of unfair methods used in the pipe line business leads up to a discussion of regulatory measures. The Standard

has (1) opposed the construction of independent lines; (2) bought up the stock of competitors; (3) detached supporting wells and refineries from the same; (4) taken their trade by offering premiums on crude in competitive territory. The question arises, is the pipe line a common carrier? The Trust has denied this, and cases are given of its refusal to transport oil, to deliver at desired points, and to sell (I, 158). These tactics have made it the sole purchaser throughout large areas. Instances are given of contracts with independents binding them to purchase crude from the Standard and limiting the amount to be so purchased, or to sell their refined product for export to the same monopoly. Since 1906 these contracts—perhaps from fear of being declared in restraint of trade—have been abandoned.

The interstate commerce act amendment of 1906 has had little effect, in some cases rates are not filed; in others rates are made to relatively unimportant points alone; a 75,000 barrel minimum shipment is required; and statistics furnished have been altered so as to give little information.

The Bureau holds that the common carrier idea is entirely feasible for pipe lines, delivery from a common stock being the recourse.

A detailed analysis of the cost of pipe line transportation follows, in which due allowance is made for depreciation and interest on capital invested. The conclusion is that the trunk pipe line cost is about 2.38 mills per ton mile. Rates as a rule correspond closely to railway rates, though the cost is far less. The Bureau estimates that collection charges are double what a reasonable rate should be.

The volume concludes with chapters on refining and marketing. In the case of illuminating oil, the Standard practically controls 86.5% of the output and about 77% of the export trade. The widespread monopoly has enabled the Trust to introduce the bulk method of delivery—dispensing with jobbers and middlemen—and this has given it great advantage over smaller competitors. Throughout the report, however, it is emphasized that the Standard's control rests primarily upon domination of transportation agencies.

While the other volumes deal largely with the methods used by the Standard to secure control and the extent of that control,

part II of the report deals with the results of that control upon the prices paid by consumers and the profits received by the Standard. It is "an elaborate discussion of the true movement of prices both in the domestic and foreign trade, and for both illuminating oil and other products." Discrimination is the key word, the conclusion being that a three-fold preference is proven: (1) In favor of foreign consumers; (2) in favor of certain localities within the United States; (3) in favor of certain railway companies—as to lubricating oils.

The method followed is to compare the margins between the price of crude petroleum and the price of certain refined products.

The question first raised is, has the Standard lowered this margin of late years? Tables and curves are presented to show that this is not the case. Data from many sections and cities show similar results. Yet one turns from the report with an unsatisfied feeling. There is—of necessity—too much estimate and too many "probablys." Reduced to cents or fractions thereof, one feels a fear that some needle of .25 of a cent may be lost in the haystack of multiplied millions of dollars, gallons, barrels, miles, etc., and he would have small means of finding it. The conclusion is certainly weakened by the inability to compare aggregate margins, i. e., margins between crude and the entire product refined and marketed therefrom. Furthermore, the point of the Bureau's criticism seems somewhat blunted by the general decline in margins since the beginning of 1904.

In comparing foreign and domestic margins the difficulties again loom large. So far as relative *movements* are concerned, however, the results seem fairly satisfactory. Comparison of the quotations for Standard white illuminating oil at Hamburg, Germany, with the average domestic price, less freight, shows that while there is a general similarity in movement, the margin between them varies considerably. Similar results are obtained from a comparison with London and New York export prices, but one notes that the London figures cover very few years, while the New York export price has on the whole fallen less rapidly than the domestic price since 1903. (Cf. diagrams 56, 57, 58). Margins have both risen and fallen. The movements are perhaps not so startling as might be gathered from the text of the report. Moreover, these price

movements, considered as such and taken merely in their relationship to one another, may be largely explained by known conditions of demand and supply here and abroad—such factors as the anthracite strike, fierce foreign competition in 1904, and disturbances in the Baku district in 1905. It is not perhaps necessary to refer them to any arbitrary policy of the Trust (p. 330). Still we may accept the conclusion that on the whole the domestic price has of late years been higher than the foreign by a *relatively* large margin.

This at once raises the question of absolute prices and margins. Does the Trust sell oil abroad below cost? If so, American consumers may be paying for oil which lights the foreigner. According to the Bureau's own showing, however (e.g. part II, pp. 21, 378), the Standard does not seem to have gone so far. The Bureau charges it not with recouping a foreign loss from excessive domestic profits, but simply with charging us more than foreigners. Whether or not this is economically unjustifiable seems an open question. We are reminded of early discussions of the long-and-short-haul in railway regulation, and it may be that while forced to sell at low prices to meet foreign competition, the Standard makes something toward paying expenses, thus making it possible to sell oil more cheaply in the United States. Chapter ix is devoted to an unfavorable general criticism of the Standard's export policy.

A point of some significance is made in showing that New York export prices cannot be taken as representative either of foreign or domestic prices (p. 334).

The discussion of discrimination among states and sections comes more closely home to us and is perhaps of more immediate interest. Two main types of domestic discrimination are distinguished: "discrimination between towns"—within a relatively small area; and "sectional discrimination." In many cases, both are due to differences in degree of competition. The Trust is enabled to keep the competition of its rivals localized and scattered, and thus easily dominates the situation.

Conditions in the oil industry favor such local discrimination, the method of marketing being peculiarly adaptable: there is no central market or jobbing independent of the refiner.

In 1896 and 1897 oil was sold below cost in St. Louis, where

there was effective competition, while a profit of from 2 to 3 cents was made in northern Texas. Wide price differences are found even within a group of states supplied from the same or similar refineries and having the same cost of production. Thus, in 1904 the price in Delaware was 7.7 cents, in New York 10 cents, in New Hampshire and North Carolina 10.3 cents. These figures are average prices paid by retailers for medium grade illuminating oil, less freight. Also a great difference as between cities, even in the same vicinity, was discovered. It is to be observed that the question of demand enters here, a factor which is extremely difficult to analyze and weigh.

In treating the discriminations in railway lubricating oil, the different roads are grouped according to the amount actually paid for lubrication. This was found necessary, because while a uniform "invoice price" is quoted, yet varying percentages of this price are refunded under the guise of so-called mileage guaranties. The proportion of the invoice price actually paid ranges from 49 in the case of the Pennsylvania to 100 per cent on a group of 41 roads.

Sandwiched between the discussions of discrimination among places and that among railways are three chapters (xiii, xiv, xv), dealing with the Trust's costs, profits, and sources of power. On the basis of evidence presented in a private law suit some time ago and recent testimony before Judge Landis at Chicago, profits for the years 1882–1896 and 1903, 1904 and 1905 are stated. These figures, taken together with dividend rates, are made the basis for a table of dividends and profits in relation to capital stock and investment. In the years 1903–1905 profits were about 68 per cent on nominal capitalization and over 25 per cent on the estimated investment. It hardly seems necessary to observe that the percentage of profits on nominal capitalization is of little if any significance. The Standard is notoriously under-capitalized. No outsider knows just how much. The Bureau's estimate of actual investment is after all a rather rank guess. No allowance, furthermore, appears to be made for the capital value of such intangible items as good-will, trade marks, and franchises. This portion of the work can not be considered as having much scientific value.

A word may be added concerning the treatment of the Standard's

efficiency. Statistics of prices since 1860 are presented, and the conclusion drawn that the Standard can not claim merit for reduction in margins. It is argued that the Standard's dominant position is not due to superior efficiency, but largely to discriminating practices. It is conceded, however, that the Trust can, by reason of its larger scale of business, refine a gallon more cheaply than independents by between $\frac{1}{4}$ and $\frac{1}{2}$ of a cent; its pipe line facilities give it a further advantage of $\frac{3}{4}$ of a cent per gallon. Altogether 1.5 cents would cover every difference in cost of refining and marketing all products of a gallon of crude.

It is to be noted that the underlying spirit of the reports is hostile. The volumes practically constitute a brief in the case against the Standard Oil Company. The Commissioner is inclined, one feels, to see most clearly those facts and tendencies which support his case. The reasoning on the export policy of the Trust may be cited. In discussing a table of supply and price (part II, p. 410), it appears to be overlooked that during 1900, while "supply remaining for domestic consumption" decreased, the average domestic price also decreased; that during 1903 and 1904 Pennsylvania crude prices rose while the price of domestic refined fell; that in the same period available domestic supply decreased; that during 1904–1905 crude fell only .55 cents while refined dropped 1.6 cents. As a matter of fact, it does not seem that many important conclusions can be drawn from the statistics presented, and the so-called "abnormalities" depend upon preconceived notions. In two years, for example, the exports from the five principal countries decreased and yet the export prices also fell. No accurate conclusions could be drawn without a more adequate presentation of the demand side.

This suggests another general criticism; namely a weakness arising from an over-emphasis of the conditions of supply in questions of value.

Finally, the prevalence of estimates where fractions of a cent are important is to be observed.

On the whole, the Commissioner may be said to have made his case. Abuses in transportation and many discriminations are proved. Some valuable material is presented as to prices, and one feels that probably the conclusions are in general right, though overdrawn. These three volumes—with their full tables of con-

tents, summaries, and indices,—should be of great importance as illustrative material for theoretical economics in general, and for transportation, corporation finance, and statistics in particular.

Lewis H. Haney.

State University of Iowa.

The Labor History of the Cripple Creek District. A Study in Industrial Evolution. By Benjamin McKie Rastall, Economic Expert, New York State Department of Labor. Bulletin of the University of Wisconsin, No. 198. (Madison, Wis., 1908. Pp. 166. 50c.)

This is an accurate, scholarly account of the two spectacular conflicts between capital and labor that have occurred in an extremely rich mining district located in the heart of the Rocky Mountains, nine thousand or more feet above sea level. The monograph divides itself into two parts. The first, comprising four chapters, deals with the strike of 1893; the second, covering six chapters, describes the important struggle of 1903–1904.

The first three chapters consider the causes of and events leading up to the strike of 1893, and clearly indicate that the key to the situation was to be found in the character of the men themselves. Any one who has visited this mountainous region knows that the men of the Cripple Creek district were not of the ordinary population whom we usually associate with the coal fields—foreign born, illiterate and tractable—but were bold, intelligent frontiersmen who had come to the mountains as fortune seekers. The mine owners, moreover, were not of the typical capitalistic class, for the majority of them were pioneers themselves who had gained their wealth by successful prospecting. Obviously a position once taken by either side in any controversy with the other would be steadfastly maintained regardless of consequences.

Chapter iv presents the various questions at issue—the claims of the miners for better working conditions, the arguments of the mine owners in answer thereto, and the attitude of the state authorities throughout the conflict. In a concluding paragraph the author calls attention to the political intrigue which played so important a part and seriously delayed a satisfactory settlement